

Marine, lake and canal stretches of water are complex ecosystems in which an increase in the organic load and temperatures generates imbalances, triggering the onset of eutrophic phenomena and water turbidity, putrefactive phenomena in the organic sediments, with the formation of foul-smelling gases and reduction of resident benthic species.

In these degraded environments, the restoration of the biological balance cannot take place spontaneously but it is necessary to intervene with specific treatments which will be all the more effective the more similar to natural biological processes.

This is achieved by optimizing the development conditions of autochthonous degraded microorganisms, by intervening on trophic factors, such as the availability of nutrients, or on chemical-physical factors, such as for example the concentration of oxygen or the availability of a substrate for growth.

One then operates directly on the matrix to be treated to condition it, in order to favor an increase in the growth of the microorganisms. From this point of view, treatment with AVBioStim (Bio Farming) allows you to achieve the following main benefits:

- increase in autochthonous microbial activity;
- regression of the organic substance present in the sediments and therefore of their thickness, producing the so-called "BIODREDGING" effect;
- increase in benthic species and development of meiofauna;
- restoration of water transparency, persistent even during underwater work eg. moorings and catenaries in marinas;
- restoring the balance of the ecosystem with the reappearance of more delicate molluscs and fish
- improvement of the bathing indexes of the surrounding waters

The sustainability of these treatments is made possible thanks to the optimization of the following ratios:

- excellent results achieved with the use of only natural products;
- low costs incurred against high benefits obtained;

which make them far preferable to any other type of intervention.

### THE PRODUCT

AVBioStim is a finely ground calcium carbonate of fossil origin, with a high specific weight, which has a very high porosity and a high adsorption surface.

In water it is able to develop a beneficial triple effect:

- allows to bind the micro particles present in suspension in the water producing a physical-mechanical action during the sedimentation which results in the "clarification" of the water;
- allows air to be transported in porous interstices, making it available for resident microorganisms;
- forms an ideal substrate for the development of colonies of autochthonous microorganisms, capable of attacking and degrading the organic and polluting substances present, effectively revitalizing the natural disintegration processes, increasing the available oxygen.

The normal treatment involves the spreading of about 0.5 kg of AVBioStim per m<sup>2</sup> of surface, taking about 2 days to settle on the bottom depending on the depth.

### BIOREMEDIATION

Maddalena Island Treatment



The data, coming from two different sowing campaigns, clearly represent the rapid degradation of mineral oils, while the redox potential grows, more slowly, but significantly.

